



THE COMMONWEALTH OF MASSACHUSETTS  
WATER RESOURCES COMMISSION

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**Meeting Minutes for April 11, 2002**

**Members in Attendance:**

Mark P. Smith	Designee, EOE
Marilyn Contreas	Designee, DHCD
Mike Gildesgame	Designee, DEM
Cynthia Giles	Designee, DEP
Gerard Kennedy	Designee, DFA
Joe McGinn	Designee, MDC
Richard Butler	Public Member
Gary Clayton	Public Member
David Rich	Public Member
Bob Zimmerman	Public Member

**Others in Attendance:**

Michele Drury	DEM
Vicki Gartland	DEM
Steve Garabedian	USGS
Sharon Raymond	Fay, Spofford & Thorndike
Eileen Simonson	WSCAC
Jessica Stephens	Neponset River Watershed Association
Ryan Ferrara	MWRA
Jon Beekman	SEA
James Miller	Town of Stoughton
Blake Martin	Weston & Sampson
Dick Hatten	MGWA
Lise Marx	MWRA
Lorraine Downey	MWRA
Dave Daltorio	Weston & Sampson
Daniel Annaccone	Town of Weymouth
Jarrett Selig	SEA
Pine DuBois	JRWA

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**Agenda Item #1: Executive Director's Report**

- The lakes and ponds initiative will be looking at policy issues to improve our management of lakes and ponds. This may come before the WRC.
- Aquatic resource restoration: The River Restore and Wetlands Restoration programs are looking at overall state environmental regulations and policies to see if there needs to be an overall state policy to address restoration issues. Is there any opportunity to improve the regulations to support restoration projects?

- Smith was invited to participate in a group at Tufts University which is looking at climate change. They held a session on potential impacts on water and wastewater infrastructure and demands.
- Smith gave a presentation at NEWWA's spring meeting on the water assets project.
- The Secretary's State of the Environment Report is being put on the web, rather than being printed. This report looks to the future and buildout.

Gartland provided an update on the hydrologic conditions:

- In March, we had a good amount of rainfall, 115% statewide. The highest areas were the Cape and Islands, which received about 5 inches. The northeast region received a good amount, as well. This helped a lot. Unfortunately, it did not solve the drought problem.
- The drought level has been extended to a statewide drought watch. There is updated information on our website
- Precipitation: in the last three months we got 86% of normal. Things are generally improving, but are still below normal. The six month number is still below normal, so in the short term things have been better, but the long-term picture is not that good. The composite rainfall for March statewide shows that in general, we had an excess of 0.61 inches. The indices for rainfall for last month keep us still in the drought watch level. If we get two inches of rainfall in April (less than half of normal) the six month precipitation indices would keep us in the drought watch level.
- Reservoirs and streamflow levels have been below normal for the last six months, statewide. This has moved the streamflow index level into drought warning. In general, streamflow over time for the last 45 days was in the below normal range. We still have seasonal improvement, but it is still below normal.
- Ground water levels for the last six months have been below normal. This brings the ground water index into the below normal level.
- We don't have an index for lack of snow depth, but it is important. Snow melt provides recharge to ground water and streamflow and keeps fire danger down.
- Reservoir levels improved a lot last month. But again, most are still below normal. At this time of year water suppliers would like to have their reservoirs full.
- Palmer drought index: we are in normal range.
- Crop moisture index changes from week to week.
- US Drought Monitor shows the east coast in the extreme to abnormally dry range.
- Fire danger levels have been in the moderate range. The Cape and Islands and southeast regions have been in the severe range, mostly because the sand and gravel in the region causes any rain we get to percolate through and not keep the ground damp.
- Regional Summary:
  - Cape and Islands: fire danger is in the high range to watch level. Ground water levels continue to be below normal.
  - Northeast region: ground water and streamflow are in the watch level.
  - Central region: ground water and streamflow are in the warning level. Precipitation is still in the watch level. Reservoirs in the Central region are also below normal.
  - Connecticut River region: ground water and streamflow are in the warning level. Precipitation is still in the watch level.
  - Southeast region: ground water has not been too low overall, and reservoirs are holding steady. Taunton's reservoir is about 94% full.

- Western region: ground water and streamflow are in the warning level. We not too concerned with reservoir levels. Some are below normal, but not as bad as others, compared statewide.
- The Drought Task Force will keep the drought level at a watch, statewide. There is a concern with temperatures going up and leaves coming out. This could cause drought conditions to accelerate, if we don't get more rainfall.

**Agenda Item #2: Vote – Request for Determination of Insignificance Under the Interbasin Transfer Act for Oxford's Sewering Project**

A few issues were raised during last month's discussion of this project. One was to be sure that the town understood that this approval will only be for the 16,000 gpd of wastewater requested in this application. There is a letter being circulated now from the town acknowledging that they do understand this. They understand that any increase in capacity would need additional Interbasin Transfer review.

The proposed project consists of construction of an additional connection in Oxford, in the French River basin, to Auburn, which discharges its wastewater in the Blackstone River basin. Oxford currently has a connection sized for 0.24 mgd. The additional connection is to deal with severe wastewater problems in another section of town resulting in another 0.16 mgd being transferred. This new connection is limited by size of the Leicester Road pumping station. Only a limited amount of infilling can occur, and this will not exceed the 0.16 mgd capacity. Another issue raised last month was concerns about the area around the Mass American Water Company wells in the Wellington Brook subbasin. We've discussed this with Riverways and DEP. The conclusion is that it would be better addressed under the WMA permit that Mass American will soon be applying for and also under the pending request for determination of insignificance from Charlton to purchase water from Mass American.

Staff is recommending approval based on the fact that the project meets all the applicable criteria for insignificance, the main criterion being instream flow. In lieu of instantaneous flow, staff looked at impacts to the French River as measured at the Hodges Village gaging station. Impacts on the relevant flow durations were less than 5%, as required by the criteria. The WRC also is required to look at impacts to 7Q10 flow, because there is a wastewater treatment plant downstream (Town of Webster). Reduction to this flow was 0.58%. This is too small to be measurable. The cumulative impacts appear to be acceptable.

Riverways raised questions about impacts to Wellington Brook, a tributary to the French River. There are 2 water supply wells that pump approximately 0.7 mgd from this area. Most of the water is used in other portions of town and therefore are lost to this subbasin. There was a concern from Riverways about adding one more impact. Staff did an analysis to determine if the proposed sewered areas were actually in this subbasin. The review looked at topography, surficial geology and divides. In reality, only one portion of this project is in Wellington Brook subbasin (the Plymouth Village condos). This represents 0.015 mgd leaving the subbasin. As a percent of the 99% flow duration, this represents 16.5%, but is still only 0.02 cfs. This is still insignificant with respect to Interbasin Transfer, and is such a small amount that it would be very difficult to measure. The primary impact to this subbasin is from the water supply distribution system and the better way to address this would be under the WMA program. Also it was felt that the improvements to public health that will come from this project far outweigh the minor

impacts to stream flow from this project. Riverways has agreed to work with staff on this issue when the WRC reviews Charlton and the WMA permit for Mass American. Clayton said this answered his questions and he was happy with the acknowledgement from the town about limitations to the size of the transfer.

<b>V O T E</b>	<p>McGinn moved, with a second by Zimmerman to approve the staff recommendation that the Town of Oxford's sewerage project is insignificant under the Interbasin Transfer Act.</p> <p>The vote in favor was unanimous of those present.</p>
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**Agenda Item #3: Presentation – Staff Recommendation Concerning Stoughton's Application under the Interbasin Transfer Act for Admission to the MWRA's Water Works System**

Representatives of the town were acknowledged. Drury stated that the town of Stoughton has sent a letter agreeing to abide by the conditions of the Staff Recommendation. Stoughton has land area in three river basins: the Taunton, Neponset and Weymouth & Weir. MWRA has sources in the Chicopee River basin and the Nashua river basin. Stoughton has seven existing water supply sources: three are in the Neponset River basin and four are in the Taunton River basin. The estimated combined capacity of these sources is 2.15 mgd. Stoughton has been under a water supply emergency since 1987, and they enacted a water connection moratorium in 1983. In 1999, the WRC denied Stoughton's request for an interbasin transfer from the Cedar Swamp site based on environmental impacts. Stoughton is proposing to purchase water from MWRA to supplement its existing sources, not to replace them. Staff recommends that the WRC conditionally approve this request because the application meets all the applicable criteria and Performance Standards.

- Criterion #1 MEPA: they are in compliance with MEPA. The certificate on the final EIR was issued in December 2001.
- Criterion #2 all available viable sources have been developed: In 1999, when the WRC denied the Cedar Swamp project, we stated that we believed that Stoughton had exhausted all viable alternatives within the town boundaries and would need to look out of town and out of basin for a long-term water supply source. DEP echoed this in its comments.
- Criterion #3 Water Conservation: Stoughton has strong water conservation program. They substantively meet all of 1992 Water Conservation Standards and the 1999 Performance Standards. The only area where they are not quite in compliance is with unaccounted-for water and water audits. Over the last five years, Stoughton's unaccounted-for water has been 11%. However, there is a declining trend: for the last two years it was at 9%. Staff recommends conditioning this approval to require that they report back for the first five years after they begin receiving MWRA water to assure that this downward trend continues. Staff are also recommending a requirement that the Town continue to conduct water supply audits. They've recently completed a water audit according the AWWA guidelines, and incorporating an evaluation of the effectiveness of their existing conservation methods, as required by the 1992 Conservation Standards. We require water audits every 3-5 years. A condition of the Staff Recommendation is that Stoughton continues to conduct water audits every 3-5 years.

- Criterion #4 Watershed Management: This is not applicable to this project. Stoughton's water supply sources are ground water. This criterion applies to a proponent's surface water sources.
- Criterion #5 Reasonable Instream Flow: one of the issues raised during the review and comment period was the operation of MWRA's water supply sources. MWRA is required by federal law to maintain certain downstream flows through mandated releases. Staff is recommending that Stoughton should be evaluated under the current guidelines and operation procedures. Issues with operating rules go far beyond ITA. Staff recommends that MWRA enter into negotiations with interested stakeholders before they admit any other new communities.
- Criterion #6 pumping test: This is not applicable to this project. MWRA's sources are surface water.
- Criterion #7 Local Water Resources Management Plan: Stoughton has submitted a draft plan. Staff has reviewed and commented and Stoughton is in the process of addressing our comments. The way this regulation is written requires that the community must have adopted or be in process of developing a Local Water Resources Management Plan, so staff finds that Stoughton meets this criterion.
- Criterion #8 cumulative impacts: Staff are aware of two other communities that are thinking of joining MWRA, Reading and Wilmington, and that this analysis was required to consider the addition of these communities.

Smith added that we want MWRA to do a comprehensive look at reservoir releases to see if there is a more beneficial way to manage them. But it is not just under MWRA's control. The ACOE permit mandates certain flows and releases. We are not asking them to change releases.

Gartland elaborated on the hydrological analysis. The Swift River has been an impacted river since the dam was built. Staff did an IHA analysis on pre-1939 flows and post-1939 flows. The timing and duration of high flow events have changed and low flow events have increased, but the MWRA is required to maintain a flow of 20 mgd, which is about 30 cfs, five miles downstream of the Winsor Dam, at the Bondsville Dam. This works out to somewhere less than 0.16 cfs. They are also required to maintain releases when the Connecticut River reaches a certain level. We usually develop a hydrograph using the period of record; however, staff had problems since the MWRA system demand has decreased significantly – about 100 mgd in the last 10 years. Staff looked at uncontrolled releases, and the combined impact with the addition of Stoughton would decrease these uncontrolled events from about 0 to 9.3%. If you add Reading and Wilmington, this increases the impact to about 18%. There was not a very significant impact to releases. They will still meet their required releases, but there will be some impact on reservoir level. Staff also looked at drought levels: how often would this transfer trigger the MWRA's various drought levels. The frequency with which they go into a drought level and stay there did not change with the addition of any of the three communities.

Staff also looked at impacts to flow characteristics. These are lower than MWRA's required releases, and since they have always met those releases, even when their demand was substantially higher than it is today, low flow statistics will not be worsened. They are maintaining a flow that is higher than the 7Q10 and 95% flow duration. The frequency of aquatic base flow will be reduced by 2%, on average. Flood flows would be slightly reduced by 1.4%. Some statistics have improved since 1990. The IHA analysis showed that annual high flows occur around July 15<sup>th</sup> because of the releases.

There is a significant fishery because of the cold water release in the summer. It is one of the few cold water fishery sites in Massachusetts. If there is a spill over the top of the dam in summer, that could be a problem because it is warmer water. DFW talked to staff about some of their concerns, including both the controlled and uncontrolled releases. Also there are a lot of structural problems in the river downstream. They are also concerned about rapid frequent oscillations of flow, but we did not find a lot of information on this when we looked at the 15 minute data and IHA. We didn't find a significant amount of changes in flow. Staff also looked at hydropower. MWRA studied putting their hydropower plant, closed by a fire in 1991, back into operation, but it doesn't appear that they will be doing this now. Staff looked at recreation as well. There is boating on the impoundments at Bondsville, downstream, and Staff didn't feel that the addition of Stoughton would impact this. Regarding wetlands, the only significant wetland is near Bondsville, and since the operations would not change due to this project, wetlands and other resources will not be impacted.

However, it should be emphasized that this already is an impacted environment. Staff suggests that maybe some of the issues around timing of releases and spills could be addressed within the terms of the current permits.

Clayton remarked that impacts to Aquatic Base Flow suggest a 2% reduction on average. What happens under drought or high flow conditions? Does this mask conditions that we might have some concern about? What if the hydro plant is reactivated? Gartland replied that the study done in connection to reactivation indicated that the current flow releases were adequate. The hydropower turbines are quite large, so they would need higher flows. Some of fisheries issues are tied to the Department of Army permit. The normal release is from bottom, which is cold, and spills are from top and are warmer.

The conditions of the Staff Recommendation have to do with maintaining and protecting local sources and continuing the conservation plan and completing Local Water Resources Management Plan. The public hearing on Staff Recommendation will be held on April 18<sup>th</sup>. The WRC is urged to attend. The public hearings on the application were held in Stoughton and Belchertown. Comments received in Stoughton emphasized Stoughton's conservation plan; in Belchertown, comments requested that MWRA consider environmental balance. No one spoke out against adding Stoughton.

Ferrara responded to questions on the hydropower project. MWRA may be seeking a private vendor to rehabilitate the hydro plant. He asked how residential gpcd was calculated and was told that it is based on the measured residential water use, divided by the service population. He asked if this recommendation assumed that people on private wells will remain on private wells and was told that some private wells have experienced contamination, but a condition of the Staff Recommendation requires that Stoughton keep their residential gpcd under 65 and if it increases beyond that, they need to implement a more aggressive residential water conservation program. Miller added that the Stoughton Selectmen had discussed the Local Water Resources Management Plan and decided to continue all the current water use restrictions, except 4:1 water conservation requirement for new commercial or industrial customer, since we have come to an impasse on this, but others, particularly residential water conservation, would continue.

Simonson said that she was concerned about the hydro plant. If it was put back on line, MWRA would try to increase minimum streamflow to 30 mgd. The gage at Bondsville is not the gage

used. It's the West Ware gage, which is closer to dam. The way the reservoir system is managed is to minimize spills, so maybe the spill analysis is not really relevant. The MWRA Advisory Board and Board of Directors have approved a policy that states that system expansion can only take place if there is no negative impact to current users, the watersheds, or the environment. There is a small incremental impact to the drought plan, but not the formal drought plan. For 24 years, WSCAC has fought against expansion. There are many more communities out there that could apply. An approval from this Commission should not be an entitlement to let water use increase. Smith stated that he thought the conditions of the Staff Recommendation reflected this. Also, this approval is not open-ended, it is for a certain amount of water. If Stoughton's water use explodes, they will need to come back and show that their conservation plan is still in place. Miller said that the Town concluded that what Stoughton does in terms of water supply and use doesn't depend on what other communities do. Stoughton will act in the Town's best interest and protect its water supply sources.

Smith stated that town has requested that we vote on this at the May meeting, if no large issues come up at public hearing and asked for a sense of the commission. Zimmerman stated that Stoughton should recycle its water and that if we kept water local most of these problems would not exist. He stated that we need to abandon traditional engineering solutions or else we will dewater Massachusetts!

Ferrara asked how much of the review process looked at the commercial and industrial use. It seems that Stoughton wants to use MWRA water to promote industrial and commercial growth. He was answered that the WRC requires water to be used efficiently. It is a local decision on how it is used. The Performance Standards and regulations do address commercial, industrial and institutional water conservation, but we were not able to find one metric, as we could with residential water conservation, to measure success.

**Agenda Item #4: Vote on Weymouth's Interbasin Transfer Application for Approval of an Increase in Capacity of the Landing Area Sewer as Complete**

Weymouth's representatives were acknowledged. Drury reminded the WRC that this vote is just to accept the application as complete; we are not passing any judgments on the merits of the proposal. This vote will just allow us to go forward with the review and public hearing processes. Weymouth owns and operates its town-wide system. It is connected to the MWRA's Braintree-Weymouth sewer. The town system is experiencing overflow problems. This project is part of a larger project in the town to address the overflow issues. This is all being done under a DEP Administrative Consent Order. One of the solutions is to build an additional connection to the MWRA sewer at the Landing Interceptor area. There is an existing interceptor there. After many engineering studies, it was decided that the best solution would be to construct an additional interceptor in this area to divert some of the flows that are going through the existing undersized interceptor. The town is in the Weymouth and Weir basin. Wastewater goes to the Massachusetts Coastal basin via the MWRA system. Because this is an additional interceptor and an enlargement of their overall connection with the MWRA system, the ITA is triggered. Other things connected with the overall project in different areas of town involve enlarging existing pipes. These do not trigger the Act. The new connection will be for 5.2 mgd. They are in process of doing an extensive town-wide Infiltration/Inflow removal project. This project is only to address wet weather flows. It will not result in additional sanitary flow going out of

basin. Once the application is accepted as complete, we'll have 60 days to hold two public hearings. Staff urged Commissioners to attend.

<b>V O T E</b>	<p>Clayton moved, with a second by Giles, to accept Weymouth's Interbasin Transfer application for approval of an increase in capacity of the Landing Area sewer as complete.</p> <p>The vote in favor was unanimous of those present.</p>
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**Agenda Item #5: Vote – Proposals for Assistance from the New England Division, Corps of Engineers**

Gildesgame reminded the WRC that we did more outreach this year and got more applications. Since last month, the Hatfield Reservoir Dam and the East Brookfield project were removed from the list. The ACOE was able to provide technical assistance and will be providing alternatives for short-term solutions to these communities. Therefore we have three Planning Assistance to States (PAS) projects. The Leverett Dam project, which originally was under Floodplain program, has been moved to PAS. None of these projects will begin until this fall, at the earliest, to coincide with the federal fiscal year, so matching funds can be obtained in the interim. There are six projects for the Floodplain Assistance program. We combined the four projects submitted by Peabody. They are all in the same subbasin and ACOE feels that it is more appropriate to review them as one. The Flood Hazard Mitigation Program feels that the Martin's Brook project is a good addition to North Reading's Flood Mitigation plan. Strait's Pond and Musquashcut Pond are two coastal salt water ponds that have similar kinds of issues. Strait's Pond in Hull is part of Weir River ACEC. This project will complement studies going on there. The Musquashcut Pond floodplain management study is an ongoing issue in Scituate. This will provide information that will help the town resolve some of those problems. Weymouth has a series of flooding problems. The ACOE will address these and provide conceptual design for the seawall project.

Gildesgame referred to the issues raised by Clayton last month concerning Strait's Pond. Jason Burtner has been in touch with Clayton and these issues have been resolved. Clayton asked what happens if these projects are not recommended this fiscal year? If a project is not funded, the proponent will need to reapply for the next round of funding.

<b>V O T E</b>	<p>Clayton moved with a second by Contreas, to approve the priority recommendations for planning assistance for the US Army Corps of Engineers, as reflected in the memorandum of April 9<sup>th</sup>, 2002 from Mike Gildesgame. These recommendations apply only for federal fiscal year 2003.</p> <p>The vote in favor was unanimous of those present.</p>
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**Agenda Item #6: Vote – Environmental Impact Scopes to be Used in Place of the Current IBT Application**

Drury recapped last month's discussion. The current application we use is not very good. It does not even address the basic criteria of the regulations. The new scope addresses the performance standards for each of the criteria of both the Act and the regulations. Comments



received include a concern that the scopes might supercede the regular MEPA process. The introduction to the scopes states that these are only to address interbasin transfer issues and MEPA should be contacted for a larger scope. One comment was that the detailed nature of the scopes gave the proponent a clear understanding of the information needed and would eliminate repetitive requests for additional information. Another commenter said that the scopes were dense and overwhelming. A good suggestion received was that we require information electronically. This has been incorporated. Also there was a comment on the quality of maps provided. Staff edited the scopes to request maps that are clear and of an appropriate scale. There was another comment on the term “receiving area” as used with the wastewater scope. Unfortunately, the criteria of the regulations and the scope reflect the Act itself. The spirit of the Act requires that anyone transferring water evaluates all their local sources and have conservation measures in place. If, in a wastewater transfer, the WRC requires this of the area to where the wastewater is transferred, this doesn’t address the spirit of the Act. Staff are working on a regulation revision and trying to reflect the spirit of the Act in term of wastewater transfers, but right now, the way the Act and regulations stand, the receiving area is the area that makes use of the transfer. In 1987, the WRC did do some interpretation of the regulations for wastewater transfers and this is what we’ve used. But it is confusing. There was another question as to whether or not the proponent should list its interconnections. This is very useful in helping to determine whether or not the proponent was maximizing its local in-basin sources. However, a lot of communities which have interconnections find these are limited. They can’t depend on these interconnections for long-term reliable water supply.

Zimmerman asked if we require proponents to look at innovative alternatives to big pipes in the ground. They are required to do alternatives analyses in every case. What they look at will be scoped out by DEP and MEPA. Zimmerman suggested that he should send over numbers on the Smart Storm system that CRWA is marketing to show how much water it can actually store. At the very least towns should be considering something like this. Smith suggested that CWRA give a presentation to the WRC.

Simonson requested that the vote on the scope for MWRA be postponed because she had some concerns about the spill analysis done by Staff and MWRA for Stoughton. She requested that an evaluation of drought response that does not just address Stage 1 drought, be incorporated. This will include below normal levels. It was agreed that we could hold the MWRA scope back to address these concerns and bring it back in May for a vote.

<b>V O T E</b>	<p>Clayton moved, with a second by Rich, to approve the scopes, as amended (with the exception of the MWRA water supply scope) for use in Interbasin transfer applications</p> <p>The vote in favor was unanimous of those present</p>
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**Agenda Item #7: Discussion – Review of Public Comments on the Lawn and Landscape Water Conservation Policy and Guidance**

Smith distributed the draft policy and guidance. Because of the dry conditions, it would be good to approve these soon. Smith will do a formal response to comments. He received over 30 comment letters, which were very insightful. Many towns are already using the draft guidance to

make changes in their approach to management of outdoor water use. There are two major issues of concern:

- A continued concern from the irrigation installer community is a perception of a bias against automatic in-ground irrigation systems. Staff has had a number of good discussions with this group. Their opinion is that a well designed, properly installed and run system can apply water more efficiently than hand-held technology. Our point is that because these systems are automatic, it is very easy for overall water use to increase. They suggest that this should be handled by a water restriction approach. The guidance covers this. The irrigation installers also believe that we shouldn't discriminate against in-ground versus other types of watering, but that the state should control all of them.
- The second issue raised was about private wells. The concern is that a couple of towns have banned the installation of private wells for irrigation purposes and there's been concern from the industry that this is not proper approach. In fact, some towns feel that having private wells takes the demand off the public system. There is very little data on the environmental impacts of private wells.

There was also a concern that restrictions on lawn irrigation may impact agricultural interests that rely on irrigation for their crops. Changes were made to state that it is for lawn watering only. We received many thoughtful comments from both sides of the issues. So in light of the comments we received, we've made changes to the policy and guidance.

We will try to bring this back for a vote in May. Clayton asked how the policy and guidance will be distributed. It will be posted to the web and its availability will be noticed in the Environmental Monitor. There will be community mailings, etc. Rich asked who the enforcing agencies were. He was answered that these standards will amend the 1992 conservation standards. Rich stated that it was a problem requiring that public water suppliers be responsible for uses of private wells, especially if these standards are going to be used in a regulatory context.

### **Other business**

Beekman remarked that the USGS budget for next year did not include any money for stream gaging and suggested that the WRC might want to go on record to US Department of Interior that this would not be a wise move. Smith said that he'd look into this.

Meeting adjourned

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Minutes approved 8/12/04